



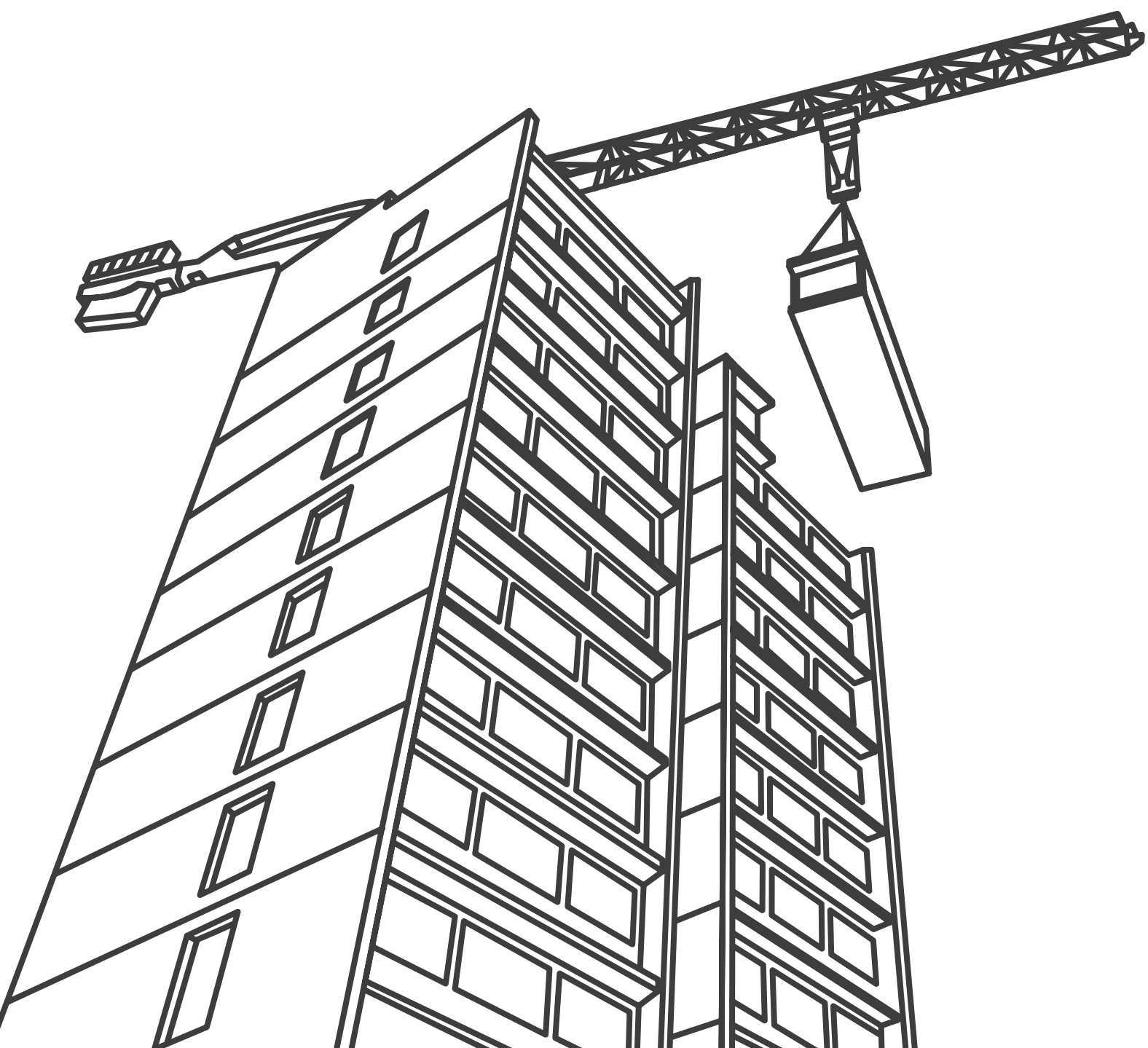
EQUIPMENT FOR PRECAST CONCRETE PLANTS

YOUR LONG TERM PARTNER



**PREFABRICATED PRE-FINISHED VOLUMETRIC
CONSTRUCTION CATALOGUE**

Industrialized construction



**EQUIPMENT FOR PRECAST
CONCRETE PLANTS**

ISO 9001

**BUREAU VERITAS
Certification**



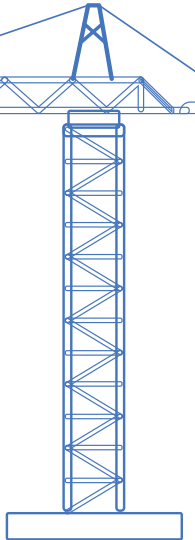
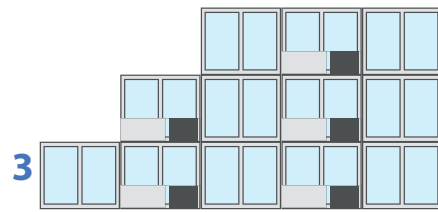
INDUSTRIALISED PRODUCTION USING PPVC

- 1 Modules made at the factory.
- 2 Modules transported to the site.

What happens at the construction site?

The finished modules are stacked like Lego pieces and fastened together on site. Each module can weigh as much as 50 tonnes and is no bigger than 12m (length) by 3.4m (width) by 4.5m (height).

- 3 Modules installed at the site.

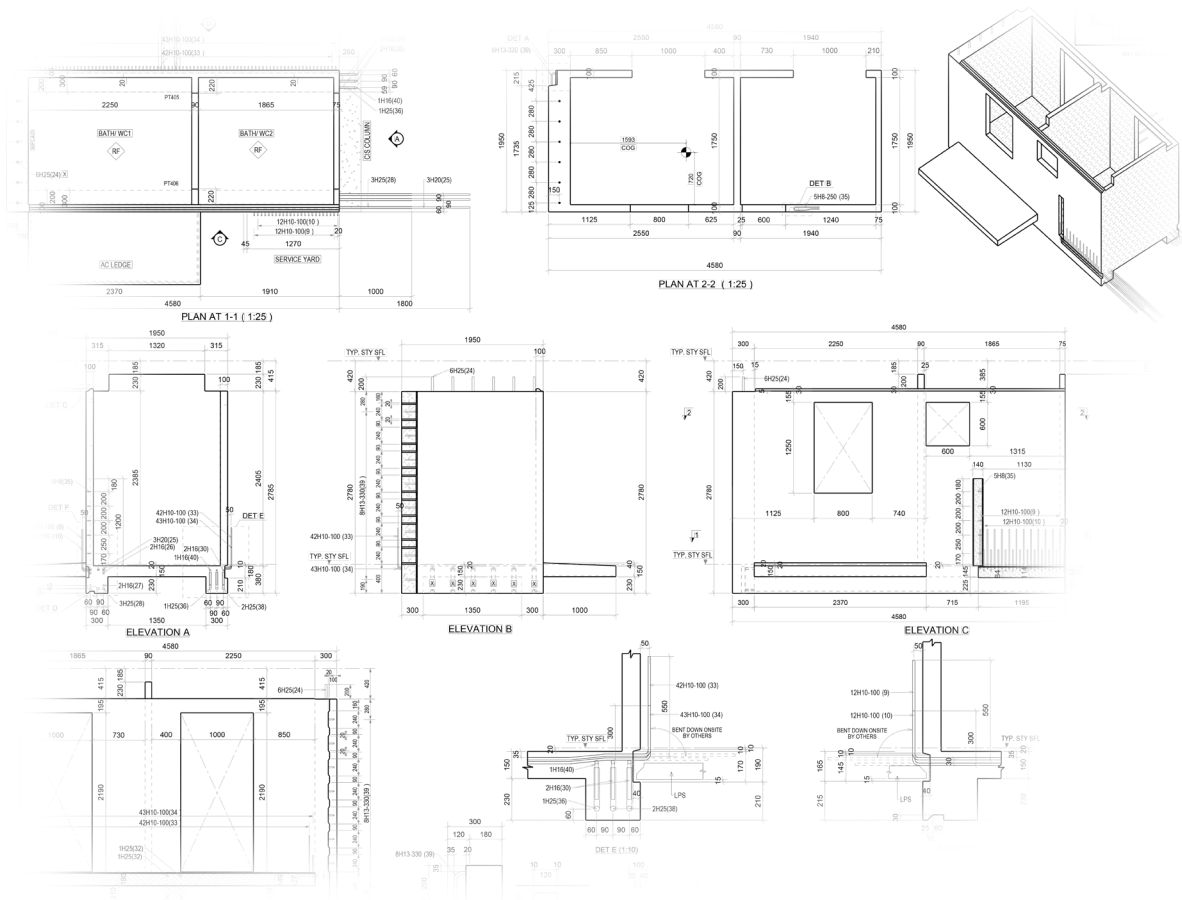


Stop thinking in the traditional way and start thinking in the 'industrial approach':

- 1 Increase of the efficiency of the production processes and methods.
- 2 Elimination / reduction of working hours lost due to inclement weather.
- 3 Elimination / reduction of weather-related fluctuations in performance.
- 4 Increase of efficiency by clear work-flow processes.
- 5 Elimination / reduction of searching for material.
- 6 Elimination / reduction of rearranging material.
- 7 Reduction of loss of material.

A survey of cost structures in building construction shows that the total construction costs account for only approx. 50 % of the total investment costs of a residential building.





EQUIPMENT FOR PRECAST CONCRETE PLANTS

TRADITIONAL IN SITU PRODUCTION VERSUS INDUSTRIALIZED PPVC PRODUCTION

TRADITIONAL PRODUCTION SYSTEM

The traditional system is more labour intensive and most of the structural, architectural and mechanical finishes have to be carried out at the building site. This implies using more people to manage at the site, more complicated work organization and less quality control.



3D PPVC PRODUCTION SYSTEM

The 3D PPVC modular approach manufacturers not only the structural part inside the factory but also almost the complete finishing works.

This means almost 90% of the production process takes place in a controlled environment using a standardized and simplified methodology which allows to attain higher productivity and quality and less possibility for errors.



FOR A WIDE VARIETY OF PROJECTS

The PPVC system is adequate for a wide variety of projects ranging from high-rise buildings to villas.

The modules can be interconnected to form altogether a larger room or each module could be an individual room. This system is especially efficient in projects with repetitive individual rooms like is the case with hotels, apartment blocks etc.



MANUFACTURING PROCESS

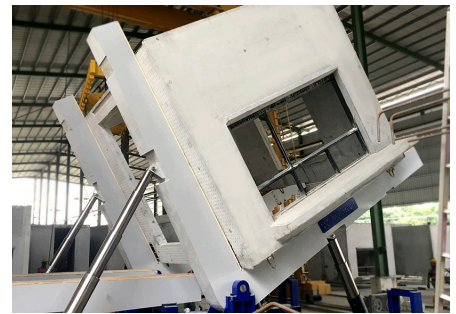
PRODUCTION PROCESS

First of all, one prepares the mould by hydraulically expanding the inner core after which one places the reinforcement, inserts, etc. After this one closes the exterior mould hydraulically and fixes all the mechanical locks.

Next it is time to pour the concrete and vibrate (if required).

Once the concrete is cured, the external mould is opened and the inner core is hydraulically shrunk liberating the casted element from the mould sides.

Now the casted element can be lifted out using the overhead crane and be turned 180° (in case it was casted upside down) on the Moldtech hydraulic turning device which can take a wide variety of casted element sizes.



FINISHING PROCESS

After turning the casted element, a first quality inspection is carried out to check if the element complies with the predetermined standards.

Once approved the casted element passes through a multi-stage process.

This multi-stage “production line” process includes the installation of the electricity, plumbing, finishing of the floor and walls and accessories.

Quality control takes place after each stage to detect possible mistakes as early as possible.

Moldtech can also provide assessment about the finishing process, factory lay-out and supply of automatization systems for the movement of the casted elements through the finishing line.

REAL EXAMPLES OF EXECUTION COMPLETION OF FINISHING TASKS AT THE FACTORY

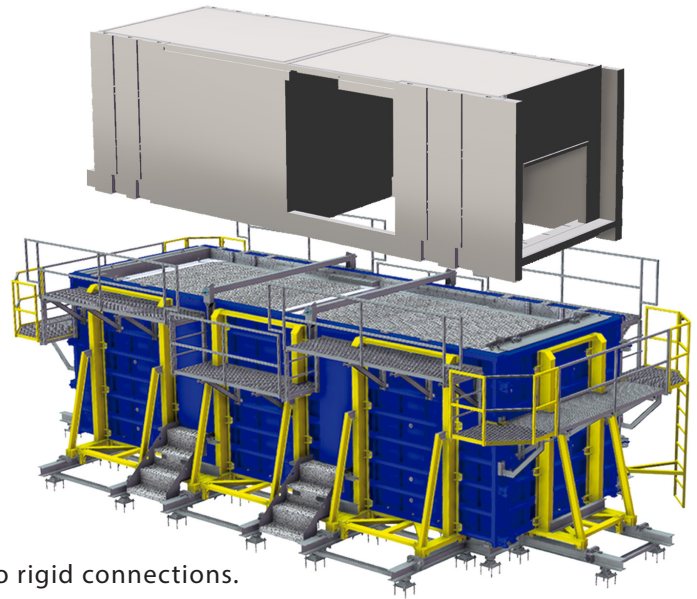
ELEMENTS

Floor finishing	80 %
Wall finishing	100 %
Painting	100 %
Windows including frames and glass	100 %
Doors	100 %
Closets, cabinets, etc.	90 %
MEP installations	100 %
Plugs, etc.	100 %

ADVANTAGES

MOLDTECH 3D SOLUTION

Moldtech' solution consists of manufacturing precast modules in one monolithic piece (normally casted in upside down position) where we would have the walls and floor. This element can be later turned 180° after which the precast roof slab is placed on top.



Advantages of the production process:

- Excellent structural qualities as the element has no rigid connections.
- Load bearing monolithic structures with high load capacity.
- One casted piece consisting of concrete with thermal mass properties and without joints which could have water filtrations.
- Higher productivity as a result of casting the module in one piece.
- Minimum tolerances.
- Straight walls without conical slope.
- Possibility to deliver the module almost totally finished on the inside.

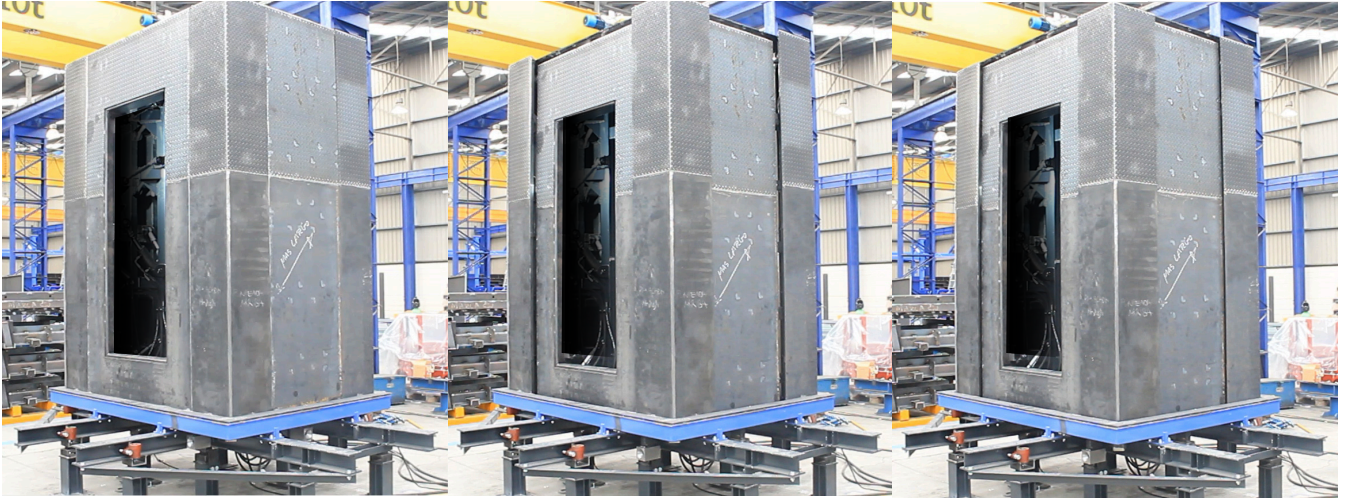
Advantages of the moulds and equipment:

- Hydraulically shrinkable inner core.
- Possibility of modules creating various rooms in one casting.
- Opening of the exterior walls by hydraulic system.
- Optimal efficiency with minimum of labour.
- Minimum of tolerances.
- All movements can be controlled from control panel.
- Possibility of integrating a heating system to shorten the curing process.
- Possibility of changing mould configuration for future.



MOULD DESCRIPTION

MOLDTECH hydraulic shrinking core allows easy and quick demoulding of the PPVC with perfectly straight walls and corners.



The mould is divided in basically four major items:

- Outer mould:

Outer panels with hydraulic movement for opening and closing of the mould.

- Inner mould (shrinking core):

Inner panels attached to a central steel structure and hydraulically actuated to perform the shrinking and the expansion.

- Base:

The concrete part is casted on top of it and the outer panels run on top of it to open and close the mould.

- Shuttering:

Various shutters attached to the mould to create the different required construction details described in the drawings submitted like doors, windows and so on.

What can Moldtech provide for PPVC construction?

MOLDTECH can support in the complete life cycle of the project.

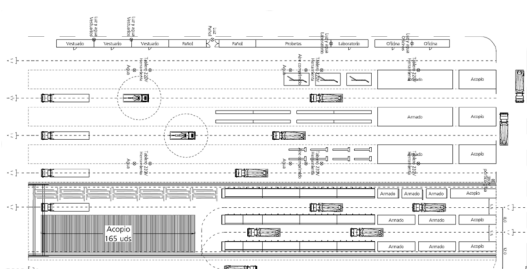
Structural
engineering
for precast
elements

Manufacturing
designs and
connection
details

Design of any
type of
tailor-made
mould system

Shutters

Design and supply of
all connection elements,
lifting anchors and any
needs for the correct
assembly



Welded mesh



- Reduced steel usage.
- Reduce wastage in steel.
- Precise dimensions.
- Standardization.

MEP conduits & installation



- Standardization of design.
- Reduces labour cost.
- No cutting & chasing.
- Accurate tapping points.

Window & door



- Precise dimension.
- Anticipated procurement during design.
- Off-site installation.

Pouring & casting



- Finishing.
- No plastering needed.
- No screeding required.

Moulding



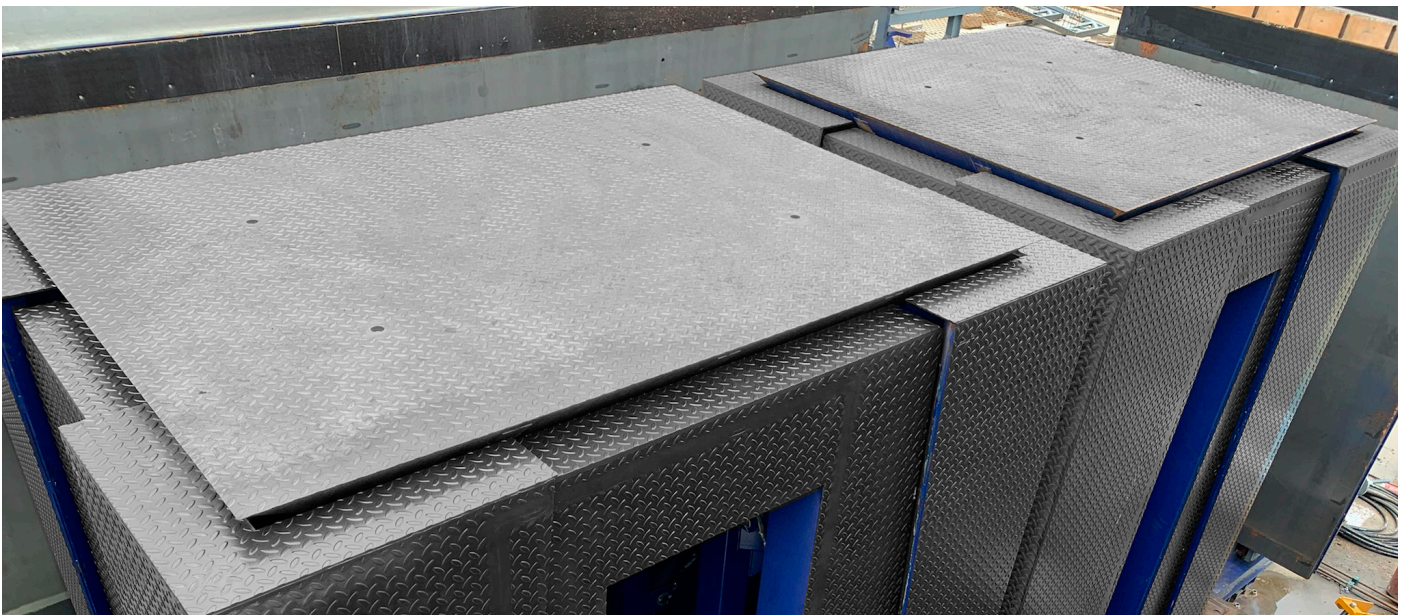
- Reconfigurable.
- Adjustable.
- Digital Mock-up.

REFERENCES

2023 USA



2021 SINGAPORE



REFERENCES

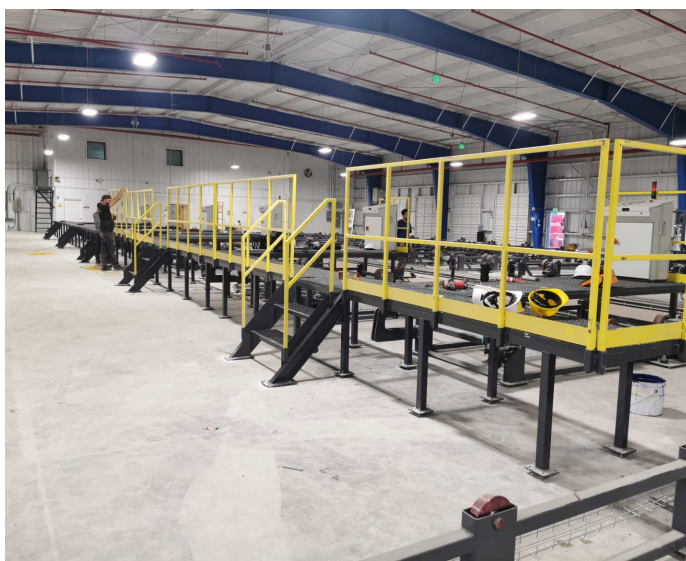
2021 SRI LANKA



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REFERENCES

2021 USA



REFERENCES

2021 FRANCE



**EQUIPMENT FOR PRECAST
CONCRETE PLANTS**

REFERENCES

2020 HONG KONG



REFERENCES

2019 SAUDI ARABIA



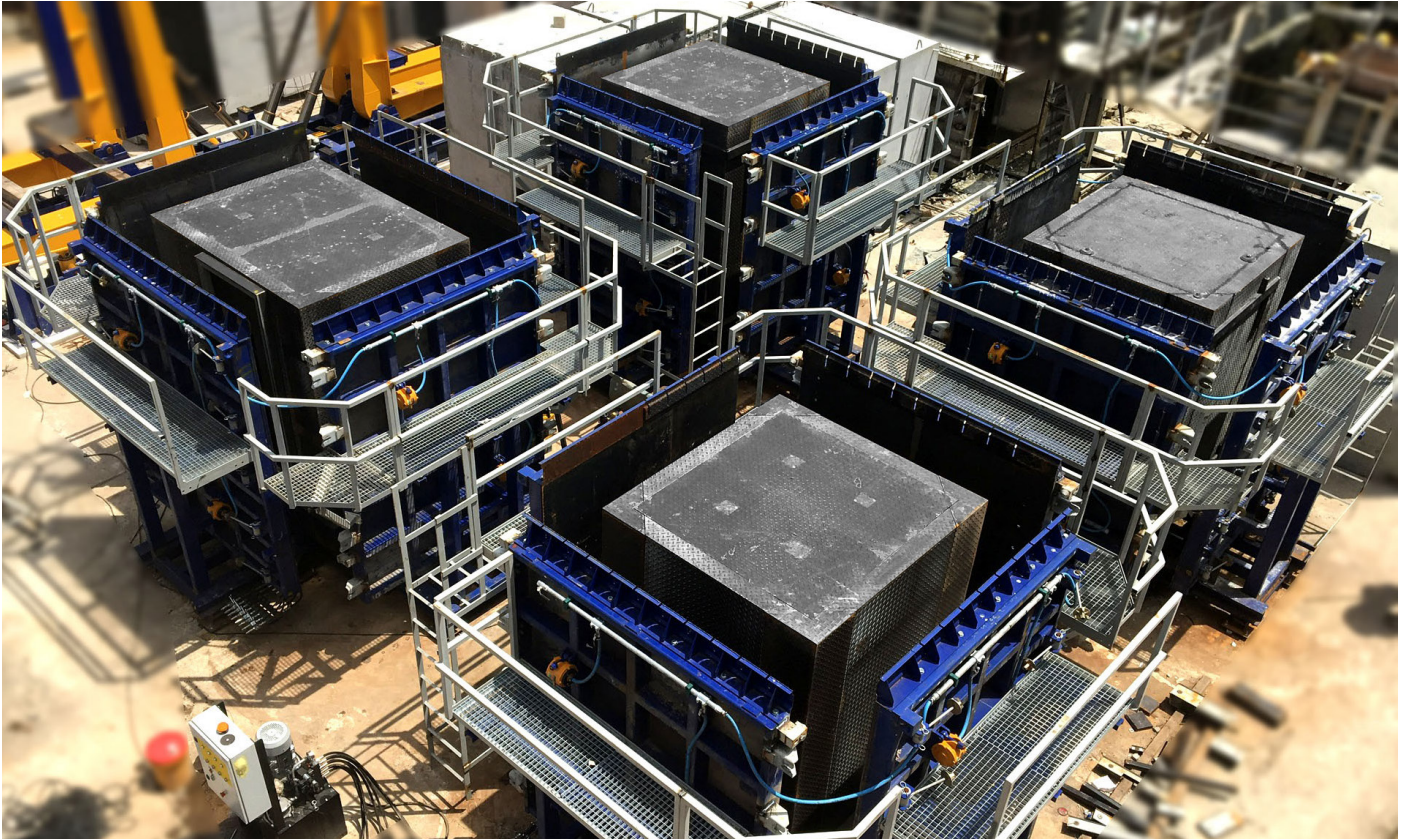
REFERENCES

2017 SINGAPORE



REFERENCES

2017 MALAYSIA



REFERENCES

2016 URUGUAY



GLOBAL LEADERS IN EQUIPMENT FOR THE PRECAST CONCRETE INDUSTRY



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Moldtech is offering you innovative solutions in the field of equipment and machinery for the precast concrete industry. Whether you need tailor-made equipment or a complete precast plant on turnkey basis, we are here to provide the solutions you need.